hydroxylated polyvinyl acetate as the polymeric matrix of claim 9 for examination of the above-identified application on the merits.

Applicants do not believe there is a fee due in connection with this response. However, should the Patent and Trademark Office determine otherwise, please charge the required fee to Pennie & Edmonds LLP Deposit Account No. 16-1150.

Respectfully submitted,

Laura A. Coruzzi Reg. No. 30742

BY: Michael J Ryan Reg. No. 41283

Date December 7, 2000

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Laura A. Coruzzi (Reg. No.)

PENNIE & EDMONDS LLP
1155 Avenue of the Americas
New York, New York 10036-2711
(212) 790-9090

Enclosure

APPENDIX A

1. A method for modulating the immune response in a mammal to an antigen by implanting within the body of said mammal a device comprising a porous matrix contained within a perforated but otherwise impermeable container, said matrix containing a quantity of said antigen, wherein said device attracts cells of the immune system to encounter said antigen and to modulate said immune response.

2. The method of claim 1 wherein the antigen is bioavailable within said porous matrix at the time of implantation of said device into said mammal.

3. The method of claim 1 wherein the antigen becomes bioavailable within said porous matrix after the device has been implanted into said mammal.

4. The method of claim 3 wherein said antigen becomes bioavailable about three days after implantation within said mammal.

5. The method of claim 1 wherein said antigen is introduced into said device about three days after implantation.

6. The method of claim 1 wherein said antigen is provided in a delayed release formulation.

7. The method of claim 1 wherein said porous matrix comprises a polymeric material.

8. The method of claim 7 wherein said polymeric material is selected from natural and synthetic sources.

9. The method of claim 8 wherein said polymeric matrix is selected from the group consisting of hydroxylated polyvinyl acetate, polyurethane, ethylene/vinyl acetate copolymer, polylactic acid, polylactide-glycolide copolymer, gelatin, collagen, cross-linked collagen, and combinations thereof.

10. The method of claim 1 wherein said container comprises a polymeric material selected from natural and synthetic sources.

11. The method of claim 1 wherein the porous polymer matrix comprises hydroxylated polyvinyl acetate and the container comprises a segment of perforated tubing.

12. The method of claim 1 wherein said quantity of antigen and the timing of the bioavailability of said antigen within said device relative to the time of implantation of said device into said mammal results in inducing or enhancing the immune response to said antigen.

13. The method of claim 12 wherein said antigen is bioavailable within said device after implantation of said device into said mammal.

14. The method of claim 13 wherein said antigen is introduced into said device about 2-4 days after the implantation of said device into said mammal.

15. The method of claim 1 wherein said quantity of antigen and the timing of the bioavailability of said antigen within said device relative to the time of implantation of said device into said mammal results in suppressing or down regulating an existing or potential immune response to said antigen.

16. The method of claim 15 wherein said antigen is bioavailable within said device at the time of implantation within said mammal.

17. The method of claim 1 wherein said device is removed from the body of said mammal after a period of about 10 days.

18. The method of claim 1 wherein a second quantity of said antigen is reintroduced into said device.

19. The method of claim 18 wherein said second quantity of said antigen is reintroduced into said device by delayed release of said second quantity of said antigen present within the device at the time of implantation.

20. An implantable device for modulating an immune response to an antigen comprising a porous matrix contained within a perforated but otherwise impermeable container.

21. The device of claim 20 wherein said antigen is present within said porous matrix.

22. The device of claim 20 further comprising means for introducing said antigen into contact with said porous matrix, either prior to or after implantation.

23. The device of claim 20 wherein said matrix comprises a polymeric material.

24. The device of claim 23 wherein said polymeric material is selected from natural and synthetic sources.

25. The device of claim 24 wherein said polymeric material is selected from the group consisting of hydroxylated polyvinyl acetate, ethylene/vinyl acetate copolymer, polylactic acid, polylactide-glycolide copolymer, polyurethane, gelatin, collagen, cross-linked collagen and combinations thereof.

26. The device of claim 20 wherein said container comprises a segment of perforated tubing.

27. The device of claim 20 wherein said container comprises a perforated but otherwise impermeable coating disposed around said porous matrix.

28. The device of claim 27 wherein said coating comprises a polymeric material.

29. The device of claim 28 wherein said polymeric material is selected from natural and synthetic sources.

30. The device of claim 29 wherein said polymeric material is selected from the group consisting of cross-linked collagen, polylactic acid, polylactide-glycolide copolymer, polyethylene, silicone, latex resin, polystyrene, acrylic resin, polyvinylpyrrolidone, and

combinations thereof.

31. The device of claim 20 wherein the porous matrix comprises hydroxylated polyvinyl acetate and the container comprises a segment of perforated tubing.

32. A method for obtaining immune cells from a mammal wherein said immune cells are harvested from a device implanted in said mammal comprising a porous matrix contained within a perforated but otherwise impermeable container.

33. The method of claim 32 wherein said harvested cells are reintroduced into said mammal.

34. The method of claim 33 wherein said harvested cells are cryopreserved before reintroduction into said mammal.

35. The method of claim 32 wherein an antigen is present within the porous matrix of said device.

36. The method of claim 35 wherein said immune cells are reintroduced into said mammal.

37. The method of claim 35 wherein said immune cells are reintroduced into said mammal after exposure to said antigen in vitro.

38. The device of claim 32 wherein said matrix comprises a polymeric material.

39. The device of claim 38 wherein said polymeric material is selected from natural and synthetic sources.

40. The device of claim 39 wherein said polymeric material is selected from the group consisting of hydroxylated polyvinyl acetate, ethylene/vinyl acetate copolymer, polylactic acid, polylactide-glycolide copolymer, polyurethane, gelatin, collagen, cross-linked collagen and combinations thereof.

41. The device of claim 32 wherein said container comprises a segment of perforated tubing.

42. The device of claim 32 wherein said container comprises a perforated but otherwise impermeable coating disposed around said porous matrix.

43. The device of claim 42 wherein said coating comprises a polymeric material.

44. The device of claim 43 wherein said polymeric material is selected from natural and synthetic sources.

45. The device of claim 44 wherein said polymeric material is selected from the group consisting of cross-linked collagen, polyethylene, silicone, latex resin, polystyrene, acrylic resin, polylactic acid, polylactide-glycolide copolymer, polyvinylpyrrolidone, and combinations thereof.

46. The device of claim 32 wherein the porous matrix comprises hydroxylated polyvinyl

acetate and the container comprises a segment of perforated tubing.

47. The method of claim 35 wherein said immune cells are used for the preparation of a hybridoma for the production of a monoclonal antibody against said antigen.

48. A method of immunizing a mammal with an antigen for the preparation of a hybridoma for the production of a monoclonal antibody against said antigen, wherein the mammal is immunized using the method of claim 12.

49. A method of immunizing a mammal with an antigen for the preparation of a hybridoma for the production of a monoclonal antibody against said antigen, wherein the mammal is immunized using the device of claim 21.

50. The method of claim 12 wherein said immune response to said antigen is selected from the group consisting of prophylactic vaccination, therapeutic vaccination, cellular immunity, humoral immunity, mucosal immunity, long-term immunity, and combinations thereof.

51. A method for the production of hybridomas producing human monoclonal antibodies against a preselected antigen comprising the sequential steps of:

(a) introducing human peripheral blood lymphocytes into the circulation of a severe combined immunodeficient (SCID) mouse and allowing said lymphocytes to populate the immune system of said mouse;

(b) implanting in said mouse a device of claim 21, the antigen of said

device comprising said preselected antigen;

(c) harvesting immune cells from said device;

(d) preparing hybridomas from B lymphocytes present in said harvested immune cells; and

(e) identifying by screening methodology those hybridomas that produce monoclonal antibodies that recognize said preselected antigen.

52. A method for transfecting immune cells of a mammal with genetic material comprising introducing said genetic material within the matrix of a device comprising a porous matrix contained within a perforated but otherwise impermeable container, said device implanted within the body of said mammal.

53. The method of claim 52 wherein said genetic material is selected from the group consisting of DNA, RNA, and cDNA.

54. The method of claim 52 wherein said genetic material codes for an antigen.

55. A method for the treatment or prophylaxis of a disease or condition caused by an immune response comprising suppressing said immune response in accordance with claim 15.

56. The method of claim 55 wherein said disease or condition is selected from the group consisting of allergies, transplant rejection, and autoimmune diseases.

57. A method for modulating the immune response in a mammal to an antigen by

implanting within the body of said mammal a device comprising said antigen and further comprising means for limiting the passive diffusion of molecules out of said device without limiting the active movement of immune cells into or out of said device.